Name:

at1113exam: Expand, factor, and solve quadratics (v330)

1. Expand the following expression into standard form.

$$(2x - 9)(2x + 9)$$

$4x^2 + 18x - 18x - 81$

$4x^2 - 81$

2. Expand the following expression into standard form.

$$(5x - 4)^2$$

$25x^2 - 20x - 20x + 16$

$25x^2 - 40x + 16$

3. Expand the following expression into standard form.

$$(5x - 6)(4x - 3)$$

$20x^2 - 15x - 24x + 18$

$20x^2 - 39x + 18$

4. Solve the equation.

$$(9x + 8)(3x + 7) = 0$$

$x = \frac{-8}{9}$ $\quad$ $x = \frac{-7}{3}$

5. Solve the equation with factoring by grouping.

$$8x^2 + 10x + 12x + 15 = 0$$

$$(2x + 3)(4x + 5) = 0$$

$$x = \frac{-3}{2} \qquad x = \frac{-5}{4}$$

6. Solve the equation.

$$7x^2 - 18x + 10 = 4x^2 - 2x + 5$$

$$3x^2 - 16x + 5 = 0$$

$$(3x - 1)(x - 5) = 0$$

$$x = \frac{1}{3} \qquad x = 5$$

7. Factor the expression.

$$25x^2 - 9$$

$$(5x + 3)(5x - 3)$$

8. Factor the expression.

$$x^2 + 8x + 12$$

$$(x + 6)(x + 2)$$